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**Xtensions to Quark Xpress: specialty within a mass market. (includes related articles on copy protection for Xtensions and Xpress under Windows) (Cover Story)**

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QUARK'S PROGRAMMERS listen well to their customers. Over the years, Quark Xpress has gained in richness of features and competence of functions to the point where it dominates many of the specialized niche markets that used to be served by high-end systems and custom software. But good as it is, Xpress lacks many of the key features and functions that its users need. It always will.

In so saying, we are not referring to the insatiable appetite of all markets for goods that are better, faster and cheaper. Rather, we are acknowledging a reality of software mass marketing: The more features you put into a product, the more expensive it is to make and the more complex it is to use. Each extra feature raises the cost of product design, coding, testing, debugging and after-sale support. At the same time, it repels some portion of the potential customers, those who don't need the feature and begrudge the learning time--not to mention the memory and disk space--that the feature entails.

Dilemma. Quark, like just about every other software developer, is keenly aware of the dilemma this poses. The dilemma for Quark is even sharper than for most software houses, though.

Quark has consciously chosen to focus on the high end of the publishing market. This strategy has worked well. In designing products for the most demanding professionals, Quark has raised the quality standard for the entire desktop publishing market, putting competitors in the awkward position of having to play catch-up. It has also gained a reputation of being the program to use, even for applications that could be satisfied by simpler products.

However, Quark's business is predicted on a horizontal market strategy of high-volume sales at a low unit price. Unfortunately, at the high end, the publishing market is not really horizontal; it is a collection of vertical markets. To penetrate more of the publishing market, Xpress needs more features. Unfortunately, each market niche wants a different set of features; a feature that is a mission-critical asset to one workgroup is a downright nuisance to another. Besides, custom software is expensive stuff. Creating it requires extensive knowledge of each customer's needs; installing and supporting it requires lots of user training; selling custom software often requires a lengthy process of proposals and bids. No mass marketer can do that and survive.

Solution. Quark's answer to this basic dilemma has been to distinguish between core features that all users might need and optional

features that are only useful in certain applications. The optional features are deliberately kept out of the basic Quark Xpress product. Instead, Quark has provided a mechanism in Xpress for run-time loading of software modules, called Xtensions, that install additional features. The user can pick and choose which Xtensions to load.

Quark provides a few Xtensions of its own with the shrinkwrapped product. The text importing routines for various word-processor formats are packaged as Xtensions. Few customers use more than one or two word processing programs out of the half-dozen that are popular in the Macintosh environment or the dozen that dominate the DOS world. The other routines need never be installed, but they remain available on the master disks if the customer changes to a different word processor.

Perhaps most important, Quark has also encouraged thirdparty programmers to develop their own Xtensions for specific markets. This has proven to be a very astute strategy. Each Xtension developer becomes an evangelist for Quark Xpress, creating a bandwagon effect. Each developer can optimize his Xtension for an application that would be too specialized for Quark to pursue, and in so doing enables Quark to penetrate yet another market niche. Each developer can set a price that reflects the value his Xtension creates in his vertical market without affecting the horizontal market positioning of Xpress itself.

Our story. In this article, we will look at an assortment of Xtensions for the Macintosh version of Quark Xpress. (The Windows version of Xpress is still in beta testing as we go to press, and we have not received any Xtensions for it yet. We have heard of several that are in development; see sidebar.) To try to impose some order on the chaos, we have arbitrarily classified these products into four sections: general utility, design, text editing and final production. This is manifestly unfair to the multifunction Xtensions that have features for more than one category. We also realize that not all publishers will make the same division of function that we have made.

This is by no means the entire range of Xtensions that are on the market. We have deferred coverage of several imposition-related products for a future article, because imposition is a complex subject and deserves a full treatment of its own. Several other Xtensions are not really products in their own right, but are pieces of a larger system configuration. Still others (e.g., Baseview's ClassManager) are aimed at very specialized high-end markets that are more properly covered in our sister journal, The Seybold Report on Publishing Systems. Finally, there are simply too many good Xtensions to do justice to in a single article, and new Xtensions keep arriving in the market. We will therefore return to this subject in a followup article later this year.

What an Xtension is

From the user's point of view, installing an Xtension is simple: copy it into the folder or directory that Quark Xpress resides in. When Xpress starts up, it examines its own directory for files that are marked as Xtensions; if it finds any, it loads them into memory and executes their code.

That code's functions can be as simple as monitoring the state of some existing property of a piece of text. For example, one Xtension named "November '91" displays (and lets you set) the horizontal scaling and baseline displacement of the text at the cursor. Xpress can do this itself, but only via a dialog that must be dismissed before you can move on. The Xtension continuously updates a little floating windoid. Another example is ColorSpy, which, for each color in your document, simply shows the definition of that color in RGB, CMY or CMYK percentages.

At the other extreme, an Xtension's code can be very extensive, adding whole new suites of functions far beyond what is part of the standard Xpress product. For example, Npath's Tableworks gives Xpress a

sophisticated tabular-setting capability that rivals the functions in high-end systems.

Disinstalling an Xtension is equally simple: move it into a different directory. Xpress will no longer find it at startup time; it won't consume memory or clutter up the user interface. If two Xtensions turn out to be incompatible with each other, the one you need less at the moment can be banished.

Even easier, DK&A has written an Xtension, called Xtension Manager, that controls which Xtensions get loaded and which ones get skipped. We'll describe it in detail farther along.

The programmer's view. Writing an Xtension is not exactly a trivial job, but it is much easier than writing an entire desktop publishing program. Xpress already takes care of most of the work--editing text, justifying lines, controlling widows and orphans, scaling and cropping images, printing and dealing with the larger computer environment--so all the Xtension programmer has to do is write the code to handle the specialized functions that his Xtension will provide.

Xpress provides a fair amount of support to the Xtension. There is a library of more than 400 Xpress functions that the Xtension can call on for manipulating text and graphics. Xpress allows the programmer to install his own menus and dialogs. It also notifies the Xtension whenever an event of interest to it (e.g., a mouse click in a particular region) has taken place; the Xtension can do some processing and then pass the event back to Xpress.

As a result, an Xtension is almost as tightly integrated into Xpress as Quark's own code. If the programmer is reasonably careful, the look and feel of the Xtension will be indistinguishable from Xpress's own interface.

This is a great strength of the Xtension concept. But it is also a limitation. Not only are Xtensions specific to Quark Xpress, but they are usually specific to one particular version of Xpress. When Quark releases Xpress 4.0, all the Xtension developers will have to retest and probably modify their code. Then they will have to figure out how to finance upgrading all of their customers.

(If the developers have followed Quark's programming guidelines, current Xtensions should work with any Xpress 3.2 version that Quark might release. However, if a programmer relies on undocumented features of the current version of Xpress, his Xtension might or might not work in future versions.)

Becoming an Xtension developer is a matter of filling out an application to Quark and submitting a $500 application fee. Quark will also require the programmer to sign a license agreement, and it reserves the right to reject any applicant. In the event of rejection, the $500 is refunded. Before setting out to write his own Xtension, a programmer should be familiar with the C programming language and with the innards of Mac or Windows programming in general. In view of the degree of technical support that Quark stands ready to offer its developers, the fee is hardly excessive.

Caveat. Although Quark stands ready to provide tech support to Xtension developers, it cannot provide exhaustive field testing and validation services. That remains the responsibility of the developer. Xchange, which specializes in marketing Xtensions, tests its products before offering them for sale. Nonetheless, it is impossible to guarantee that every Xtension will work in every environment, or in combination with other Xtensions--to say nothing of hardware options, system startup add-ons and other variables.

However, in our testing, we were pleasantly surprised at how few problems we had. Some of the Xtensions we received were pre-release versions, yet they behaved themselves rather well. As noted below, the biggest problem we experienced when we loaded up lots of Xtensions at once

was running out of space in the menu bar.

For this article, we ran the Xtensions on both an old Mac II and a Quadra 700. We should note, however, that we left the Quadra's cache turned off most of the time. Xpress and most Xtensions work with Quadra's caches turned on, but some of the other software that we routinely use gets indigestion from the cache.

A philosophy

Most of the Xtensions we have examined do just one small, specific function, or a group of closely related functions. They do not try to include every gimmick in one program; the days of "kitchen-sink" software seem to be over (for now, anyway). In fact, many of these products do not do anything that you couldn't do with Quark Xpress itself.

What they are offering is user convenience and productivity. Consider Overset, which creates an overflow box for text that does not fit the allocated space and automatically removes it when the text fits. You could do the same thing yourself by hand, but it is a multistep procedure. If you spend much time writing to fit, Overset might save you a respectable amount of time and frustration over the course of a week.

And if you don't think it's worth having, you don't pay for it--not just in cash, but in the memory and disk space (not to mention extra development time) that would be consumed if it were part of Xpress.

The result is that Quark has provided a means for users to assemble a custom publishing tool that is tuned to their particular work style and job requirements. In the bad old days of high-end systems (circa 1975-1987), publishers gladly (well, more or less) paid $20,000 per seat for a customized multi-terminal publishing system. Now, taking into account the cost of a decent Mac or PC, the requisite software and a share of the cost of a network, you can get roughly comparable functions at a third of that cost--although, we hasten to add, those systems generally provided better multiuser functionality.

Our first broad class comprises those Xtensions whose functions are broader than design, editing or output alone. Rather, they affect the way Xpress works, or the way the user works with Xpress.

Xtension Manager

The job of this Xtension is to control the loading of all the other Xtensions. Now, as we noted earlier, you can do this yourself for free; Xpress will load all of the Xtensions that it finds in its own folder, but not those in any other folder. So you can select or deselect Xtensions by simply moving them into a separate folder when you don't want them. What, then, does this product gain you?

The answer is preselected sets. Xtension Manager lets you pick several Xtensions that are used together for some task and group them into a set. You can have any number of sets: for different kinds of publications (newsletter, phone directory, display ad, etc.) or for the various parts of the publishing process (layout design, editing to fit, output to service bureau) and so on. When you pick a set, its Xtensions will be the only ones loaded the next time you start Quark. It is not necessary to drag files from one folder to another.

Why not just load them all? Menu overflow is one issue. Many Xtensions add a menu to the menu bar at the top of the screen, and unless you have a really big screen, you can run out of space. Then, of course, it will be the menu you really need that didn't fit. In addition, some Xtensions may not be compatible with each other. No software publisher wants to ship buggy programs, but there are so many Xtensions and hardware configurations that it is impossible to guarantee that all combinations will work.

We would like to see two improvements to Xtension Manager. One is the capability to load and unload Xtensions at any time, not just when Xpress starts up. The other is the capability to load Xtensions that are stored in

other folders. But apparently that is not possible; due to the way Xpress works, the Xtension Manager must rely on Xpress to find the Xtensions and to load them. The Manager can only allow or reject; it cannot command. Our wish will have to wait for future Xpress upgrades from Quark.

Default Settings

Xpress lets you customize many aspects of its user interface, but not all of them. The Default Settings Xtension can further customize the way Xpress works. Moreover, the settings it installs are grouped into named sets and you can restore an entire set by a single menu pick.

* Dialog colors. Xpress lets you pick the colors of its margin and ruler guide lines. This Xtension goes further, letting you pick colors for the loose-line indicator, dialog backgrounds and the drop shadows around page borders and dialog borders.

* Measurements. Xpress lets you pick the standard unit of measure, which it will then use in all measurement displays. But there are several items that Xpress will always show in points, no matter what your preferred unit of measure. This Xtension lets you pick units separately for these items. For example, you can see your type size in millimeters, yet have the leading values shown in inches.

* Printing. You can set the size of the registration marks that Xpress prints. In addition, you can tell Xpress to create binary PostScript files, which are more efficient to transmit over networks but are not compatible with all printers.

* TIFF viewfiles. When Xpress imports a TIFF image, it normally creates a screen-resolution viewfile that becomes part of your Xpress document. With this Xtension, you can instruct Xpress what resolution to use for this operation, from 0 to 300 dpi. In fact, you can specify both a low resolution and a high resolution; the choice depends on whether the shift key is pressed when you import the picture.

* Page sets. In addition, the Default Settings Xtension adds a popup menu to three of Xpress's dialogs: New File, Document Setup and Master Guides. As with the user interface sets, you can gather the values that appear in these dialogs (paper size, page margins, number of columns, etc.) into a named set. Invoking the set via the popup menu sets all of these measurements at once. It's a convenient way to standardize a few page layouts.

There is really only one limitation to Default Settings: The settings are always global in scope. In contrast, the preferences you set in Xpress are global if no document is open; otherwise any preferences you set apply just to the document in the frontmost window. In this respect, we merely note that the Xtension is aptly named; it does not pretend to do more than it does.

a/iCu. You've probably been waiting for this: an Xtension that adds a pair of eyeballs to most of Xpress's dialogs. The eyes swivel to follow the mouse, and you can pick your favorite colors for the eyeballs' pupils and the whatsit--the "white of the eyes." Again, you can save colors in sets. This is a chance to give expression to your computer's inner personality; we think our Quadra has yellow eyes with burning red pupils.

Anyway, it comes free with Default Settings.

Vision's Edge, $65

Navigator XT

This neat little Xtension has a single main function: It displays a thumbnail diagram of the page, and when you click on some spot in the thumbnail, it immediately scrolls the page so that spot is in the center of the document window. This is especially valuable on small screens, with large spreads or when working at zoom factors greater than 100%.

There are a couple of refinements to this basic feature. You can define one spot on the page as "home" and jump there by pressing a button in Navigator's windoid. For many users, that's a bit more repeatable than

clicking in the thumbnail, though it has the same general effect. You can also jump to any page in the document, or optionally to that page's master page. Quark's Document Layout windoid does this as well, but having the function in Navigator means one less window to clutter up your screen real estate.

A Lowly Apprentice Production, $59

LayerManager

In complex layouts, it is easy to have boxes stacked over boxes so that you cannot select the box you want because there are others in front. About the only way out that Xpress gives you is to repeatedly send the front layer to the back until the object you want has risen to the surface.

LayerManager gives you a bit more control. For one thing, it displays a floating windoid that continously displays the layer number of the current object. You can reassign this object to any layer by typing a different number into the windoid. The other layers shuffle up or down accordingly.

Even more useful, it lets you specify a preferred ordering of objects--at the top, near the top, at the bottom, near the bottom or don't care--and sort them to that order by a single mouse click. LayerManager stores your preference with each object, so your settings persist from session to session. If you duplicate an object, it gets a copy of the layering preference too.

A Lowly Apprentice Production, $49

Viewlt

This is a brand-new Xtension, slated to be released in July, which we received in beta-test form just before going to press. It adds some useful navigational features to Xpress.

First, when you have more than one document open, it lets you perform an automatic "arrange" operation to stack them top and bottom, side by side, one big and two small, etc. (Windows users are already familiar with the concept of tiling screens so they don't overlap.) You can also instruct each document to remember its window's position and size the next time it is opened; Xpress normally gives each document a full screen. Alternatively, you can hide some of your windows and unhide others, selecting them by menu command. Unhiding a window is much faster than reopening the document.

Second, it makes the page number area at the bottom left of every Xpress window into a popup button that shows all available pages. By pressing the command key, the popup shows instead a list of preset zoom factors.

Xtensions for Design and Layout

In this group are those Xtensions that will be helpful primarily to the page designer or staff artist. Of course, many of the Xtensions that we classified elsewhere have a design component. For example, CompuSense's FileManager (which we have classified with the Production and Output tools because of its other functions) has a feature that lets you predefine types of documents, setting up their page sizes, margins and columns, etc. This is surely helpful to the designer, as it gives the basic dimensions and constraints in one quick step.

TextTools (listed with the text editing Xtensions) lets you skew a text box in much the same way that Xpress can skew a picture; that might be considered a design function. (However, to speed up screen drawing, it should probably be done close to the end of the production process.)

By the same token, you might view Xtensions such as ColorChange and Missing Link to be editing tools. It's all in how you use them.

Shade Tree Marketing, $99 each

Electronic Border Tape, EBT Too

Although it's not an Xtension, Shade Tree's Electronic Border Tape is a useful add-on product for Quark Xpress. It comprises two parts: a

collection of clip-art frames and the FrameMover application. FrameMover is modeled after Apple's Font/DA Mover program; its role is to move designs between a frame file and an Xpress Preferences file. There are two collections available, known as Electronic Border Tape and Electronic Border Tape Too (sic).

Unlike the 72-dpi bitmapped frames you can make with Quark's Frame Editor, Shade Tree's designs are resolution-independent. We are more impressed by the quality of some designs than others, but that would be true of any collection of clip art.

Our only gripe about this product is that it is hard to distinguish the various borders by their rendition in the FrameMover window. Fortunately, the manual has large illustrations of each border design and you can pick the frames you want by the numbers, as long as you don't lose the manual. Actually, Quark Xpress's own frame picker is even harder to read, because it shows the border at an even smaller scale. We'd like to see a zoom function here.

Vision's Edge, $79

ColorChange

You've just laid out a forty-page book. Then, as bosses are sometimes wont to do, your boss tells you that he/she wants the blue border around each picture to be a lighter blue, but the blue headlines are fine the way they are.

ColorChange to the rescue. This utility scans the objects in your document for the occurrence of colors, and offers you the chance to change any of them to a different color. You can restrict the search to specific kinds of objects: text, frames, backgrounds and pictures. You can also confine the search to specific percentage tints, though you cannot request a range of tints.

In operation, ColorChange first builds a list of all the colors that actually are used in your document. You can then pick one of these colors and search for objects with that color. If it finds such an object, ColorChange scrolls it to the top-left corner of the document window. It then offers you the opportunity to change to a different color or tint value.

As an option, instead of scrolling to each object in turn, you can simply have the program change all occurrences of one color, or one specific tint, to another color or tint.

Although this Xtension does not have the extensive functionality of ColorManager (covered later in this article), that is offset by two factors: a lower price and the fact that it does not demand space in the menu bar. Instead, it joins the motley crew at the bottom of Quark's Utilities menu.

Vision's Edge, $69

The Missing Link

This little Xtension modifies the behavior of Xpress's Link and Unlink tools. It allows the link tool to join two chains of text boxes that already contain text. The second chain can be spliced into the first chain at any point; its text is placed at the end of the text belonging to the first chain.

Unlinking is a bit more complex, and Missing Link provides a preferences dialog for the options. First, you can cut a chain into two independent chains. As to the text at the break, you can elect to sever it exactly as shown in the text boxes or only at paragraph boundaries. In the latter case, text stays in the chain that contains the beginning of its paragraph.

Second, you can duplicate a box in the middle of a chain that contains text. The dupe becomes the sole member of a new chain, and it contains a copy of the text that the original box held. It does not pick up the text from boxes farther up or down the original chain.

Copy Protection for Xtensions

Preventing the use of unlicensed copies of software is difficult in today's computing environment. If a copy protection scheme is strong, it is either expensive (such as the security keys or "dongles" that plug into a Mac's ADB port or a PC's serial port) or it annoys the user (for example, requiring a special floppy disk to be inserted when the program starts up, a small nuisance unless the floppy becomes corrupted). Most mass-market software publishers have therefore settled on a few, relatively mild techniques, such as personalizing each copy (which traces responsibility for illegal duplicates) or preventing identical serial numbers from running in a network. This has been Quark's approach.

Xtension developers can therefore key their modules to a specific Xpress serial number. Some, such as CompuSense, ask customers for their serial number(s) and embed that number within their code. The advantage is that the customer gets no chance to defeat the copy protection mechanism (such as by duplicating the disk before installing it) but the down side is that the vendor has to do some extra work before filling the order.

XTwrapper. DK&A has developed a more automated product, called XTwrapper. This is a library of code, which developers can license, that supports several kinds of serialization and licensing restrictions. It works by encapsulating the product within an installer program. The installer can do several things:

* Key the product to the serial number of a particular copy of Xpress.

* For foreign-language versions of an Xtension, only allow installation for one particular foreign-language version of Xpress. Thus an Xtension written for the German version of Xpress would refuse to install if it found a French version instead.

* Place time-bombs in the code so that it will not run after a certain date. For prerelease versions, this protects a developer's reputation as well as his revenue.

* Place the keyed product on the user's hard disk or on the installation floppy.

* Erase itself, preventing further new installations.

The serialized Xtension can be backed up freely, but it cannot be transferred to a different copy of Xpress. Of course, like many software-based schemes, this one can be defeated by backing up the disk (using a bit-copier program) and running the installer from the backup. We are hardly in favor of software piracy, but there is a reason that we recommend taking this step. Virus-interception products such as Gatekeeper must be shut off before you install. If you forget to do this (and none of the installation instruction sheets we received mentioned the necessity), the installation will fail. But there is also a strong chance that the installer itself will become corrupted.

A Lowly Apprentice Production, $29

Nudgelt

This is perhaps the smallest and simplest Xtension we have seen. Its sole function is to let you move an object in user-defined increments.

Xpress already has a "nudge" function; with the arrow keys on Apple's extended keyboard, you can move items in one-point increments. Holding down the option key changes that to tenth-point increments. NudgeIt simply lets you define the distance that the arrow keys will move an object. For Macs with a small keyboard, NudgeIt has its own arrows.

Xtensions for Editing Text and Graphics

Although Xpress has a great deal of power for formatting text, it is not the ideal tool for rewriting, polishing and trimming the words. Partly that is a direct result of Xpress's WYSIWYG orientation, which calls for updating the entire page after any editing change. It is also a matter of philosophy: Quark realizes that it cannot do everything, so it has decided

to concentrate on some things more than others.

CompuSense, $200 per language

Dashes

The built-in hyphenation routines that Xpress provides are pretty good, especially after you build up your exception dictionary. Still, there are improvements that could be made, and CompuSense (with the help of Circle Noetic Services) has implemented several of them in Dashes.

* Multiple languages. You can install hyphenation for several languages. The current list contains Croatian, Danish, Dutch, English, Finnish, French (Canadian or European), German, Greek, Hebrew, Hungarian, Icelandic, Italian, Norwegian, Polish, Portuguese, Russian, Spanish, Swahili, Swedish and Turkish. Each language takes up its own space in the menu bar, however; if you use lots of languages, better get a large screen.

* Ranked hyphenation. Each hyphenation point in the core dictionary has a numerical score from 1 to 5. The ranking is derived from certain universal stylistic rules that Circle Noetic has developed. A lower score indicates a better break point, and the Xtension lets you suppress hyphenations that are worse than your set limit.

* Import/export user dictionary. As with any good hyphenation program, the user can create an exception dictionary that overrides the built-in routines. (Alas, the exception dictionary does not allow ranking information.) Dashes lets you export the dictionary as a text file, to be edited by any word processor. And as long as it has the right format--one word per line, no nonalphabetic characters--you can import words from any ASCII text file.

If there are several Xpress users in your shop, it would be nice if they all worked with the same dictionary (preferably one that had been checked for correctness). With Dashes, this becomes possible. Everybody exports his dictionary at regular intervals. Then a supervisor merges all the files, fixes any bad hyphenations and distributes the update to all the users. As a given word can only occur once, the new hyphenation will replace the previous (possibly erroneous) version.

Dashes works by placing discretionary-hyphen codes into the text. By menu command, you can tell it to place codes in the highlighted text, the current story chain or the entire document.

Another command removes discretionaries, regardless of whether you typed them or Dashes inserted them. If you open the document on a different computer (perhaps with a different exception dictionary installed), whatever hyphenations are present will be honored and the text will not be reflowed.

CompuSense, $200 per language

Spellbound

Quark Xpress already has a spelling checker, so why do you need an Xtension spelling checker? There are several features in Spellbound that Quark's own checker doesn't provide.

* Up to five auxiliary dictionaries open at one time. (Quark's checker can only open one.) Any open dictionary can be edited while doing a spelling check run.

* One "exception" dictionary. Any word found in the exception dictionary will always be flagged as misspelled, even if it is spelled identically in a user dictionary or the main dictionary. Its function is to forbid certain spellings that are commonly accepted as correct but are not approved by your house style rules.

* Capitalization-sensitive lookups and replacements. A word that was entered into a user dictionary with some capital letters will be flagged if it appears in your text with a different capitalization. Sometimes, though, you want to keep the capitalization while fixing the spelling. A misspelled word that you replace from the dictionary can be "cast" so that it has capital letters in the same place your original text had them.

* Full Mac character set. It allows the full Macintosh character set in dictionaries, including ligatures and the European-language characters. The U.S. English version of Quark refuses words containing characters with accents, umlauts and so on.

* Nonalphabetic characters. Quark can accept apostrophes, but not dashes, slashes, trademark symbols, etc. Spellbound does.

* Multiple languages. Versions are available for Danish, Dutch, French, German, Italian, Norwegian, Spanish and Swedish. There are two English versions, one for American and one for British spellings.

Other than that, it works pretty much like most interactive spelling checking programs.

Incidentally, Spellbound can use any dictionaries that you have created with Xpress's spelling checker. The reverse is only partly true. As the manual points out, Quark's checker can open a dictionary you create with Spellbound, provided you stick within Quark's limitations. If there are ligatures, European characters or nonalpha characters in a dictionary, Xpress will complain that the dictionary is corrupted.

Clearface, $295

The Kerning Palette

This is a kerning table editor aimed at knowledgeable, professional users.

In operation, Kerning Palette continuously displays a floating window that shows the kerning value for the pair of characters straddling the cursor. You can change the amount of kerning for the current pair right there. If the interactive update feature is enabled, the Xtension will cause Xpress to rejustify the document using the new kerning value. This will slow down the Mac, and Clearface advises that owners of old, slow Macs might well leave it turned off. Then when you have accumulated all of your planned kerning updates, pressing the "apply" button causes the new values to take effect.

Kerning is in increments of 1/200 of an em, unless the user changes this via a Preferences dialog. Changes are made in 10-units increments (plus or minus) with the large arrows or one-unit increments with the small ones. You can also define what you mean by an em space: equal to the point size (the traditional definition) or equal to the width of two zeros (which may vary with the font you are using).

Running on our Quadra with this Xtension, Xpress crashed a couple of times for no obvious reason. It might be an incompatibility with one of the many other Xtensions we had loaded. However, Clearface told us that there have been other problems reported with Quadras using Type Reunion when file sharing is turned on--which is our normal setup for the Quadra.

We were favorably impressed with the user manual, which emphasizes the importance of kerning in typography. It includes sidenotes elaborating on particular items. It also offers several tutorials.

Choice of access locations. Kerning Palette gives the user the choice of storing kerning information with the FOND system resource data that is part of each font's suitcase file or within the Xpress Preferences file (and with each Xpress document).

In the former case, the kerning information is available to any applications that can make use of them, which can be an advantage. However, if kerning values are changed at a later date, which is very likely, then when an old document is accessed, the system will apply the newer kerning values and perhaps cause the line endings to change because intercharacter spacing changes.

If kerning values are stored with the document as part of Xpress Preferences, any time the document is called up, the same kerning values will be accessed and applied to the document. Thus, the document always appears the same. However, no other application can get the benefit of the kerning work you have done.

Because many Quark users will elect to put their kerning tables in the Xpress Preferences file, Kerning Palette allows viewing its contents. It also allows deleting unwanted or obsolete kerning tables.

Xpress under Windows

Some 15 months ago, Quark announced that it was porting Xpress to the Windows computing environment. It has exhibited the work in progress at a number of trade shows during the past year. Recently, beta-test versions went out to volunteer testers, including the Seybold staff. Quark says that the finished product will probably be released at the end of the summer.

We rarely review prerelease products and this article won't be an exception. However, we will say that there is an amazing degree of similarity between the Mac version and the Windows version. The order of a couple of menus has been changed, and the menus work in the Windows-standard drop-down fashion rather than the Macintosh pull-down fashion. Other than that, a Mac Xpress afficionado would feel right at home with the Windows product.

There will be Xtensions. We suspect that just about every developer is at some stage of porting his software: if not already in the process of coding, then at least thinking about the market potential, studying Microsoft's programmer information kit, talking with Windows gurus or negotiating licensing deals.

Quark recently sent us a list of developers known to be working on Windows editions of their Xtensions. Among them:

European American Graphics: ProTypeXT, ProTabsXT, ProMathXT, ProHyphenXT, ProLinesXT, ProSpacesXT, ProFractionXT, ProPageXT (a batch pagination program)

North Atlantic Publishing: Overset, CopyFlow, CopyBridge, CopyBridge/W, CopyFlow Reports, Publication Administrator

CompuSense: ColorManager, Spellbound, Dashes

CompuMation: Bureau Express

Npath: Tableworks

Em Software: Xdata

Cheshire Group: PinPointXt

QED Technology: Work Group Publishing

KyTek: AutoPage

TV Listing: TV Listings

Image Technology: Image Conversion

Firms building newspaper systems include DataStream, Graphic Arts Micro Systems, Miles 33, Mycro-Tek, Press Computer Systems, Synaptic Micro Solutions, System Integrators and West Coast Computer Systems. John Juliano is porting his Atex and Sll connection Xtensions.

Others are working on high-end color prepress systems: Howtek, Liberty Engraving, Linotype-Hell, VistaChrome and perhaps others.

Vision's Edge, $50

Text Tools

This useful little Xtension adds three new functions to Xpress. First is the capability to skew text boxes. (Other programs sometimes call this a shear function.) Xpress can rotate text boxes and graphics, and it can apply a skew to a graphic, but for some reason Quark left out the capability to skew text. Text Tools fixes that omission.

Officially, Text Tools lets you apply skewing angles between -90[degree] and +90[degree], but the closer you get to each extreme, the harder the text is to read and to edit. But the capability is there if you really want it.

Second is the capability to force a range of selected text into lowercase. In doing so, Text Tools behaves logically and leaves unaltered the letter at the beginning of a sentence (that is, following a period, question mark or exclamation point).

There are two modes for this operation. One, the Quick Lowercase,

does just what it says: puts the text into lowercase. The other, Extended Lowercase, displays a dialog that lets you elect to change the text to small capitals at the same time. Considering the extravagant use of small-cap words in The Seybold Report, you can imagine our enthusiasm. Our only regret is that this latter feature has no keyboard shortcut.

The final Text Tools function is to let you export all the text of a document to a single file, no matter how many stories there are. Xpress exports only a single story--the text in a chain of linked boxes--at a time. A single common export file might come in handy for post-print operations such as loading the text into an electronic database. (At Seybold, we run each completed issue through the Isys indexing and retrieval software; it simplifies the editors' job of looking up cross-references and half-forgotten stories.) Our only disappointment is that the output format must be text, optionally with style tags; Xpress's own story-export routine can use any installed word-processor filter Xtension. Of course, for indexing in a database, tagged text is all you normally want.

Vision's Edge, $69

Picture Tools

This handy utility lets you control the "greeking" and printout of individual pictures for faster screen updates and proof prints. In all, there are four functions in the package.

First, you can define two keyboard shortcuts (one for the alpha keys, another for the numeric keypad) to globally greek and ungreek all pictures at once. Second, you can override the global setting for specific pictures. Of course, no matter how you have set these commands, when you click on a picture it will always be ungreeked.

The third feature is a dialog that displays a list of all pictures in the document (similar to Quark's Picture Usage display) and lets you set their Suppress Printout and Suppress Picture properties, either globally or one by one. Without it, you would have to select each picture and call up the Modify Item dialog to set these properties. If you can't remember what some picture looks like, there is a show button that scrolls the chosen picture to the top left corner of your screen.

Finally, Picture Tools complements Quark's picture-sizing features. Xpress lets you size a picture to fit the box you have drawn, but it doesn't size the box to fit the picture. Picture Tools supplies the latter function, and as an option, lets you force the picture's scaling to 100%. There are a few limitations: Sizing to picture does not work when the picture has been rotated or skewed, when the picture box is a polygon, or when the resizing operation would put part of the picture outside the pasteboard. We think these limits won't worry most users.

North Atlantic Publishing Systems, $69

Overset

When you are editing text to fit a given space, it is often helpful to know how much overmatter you still have to deal with. You can do this by constructing a text box off to the side somewhere and linking it to the story you are editing. The excess text will flow into the new box where you can keep an eye on it.

That is pretty much what Overset does automatically. One click of the mouse on the little excess-text icon at the bottom of a text box creates an overmatter box the same size as the box the story ends in. Overset goes a bit further, though. It will remove the overmatter box as soon as you have cut the text to fit the original space. And when you close the document, it removes all the overmatter boxes. (Up to five such boxes can be open at one time.) Interestingly, it leaves the boxes open when you print the document.

Baseview Products, $149

QXEdit

Quark users have long envied the PageMaker Story Editor, which

provides a non-WYSIWYG window for rewriting large chunks of text without having to wait for PageMaker to reflow the page. When QXEdit was shipped earlier this year, they no longer needed to envy; they could have it in Xpress.

When to use QXEdit is a matter of personal preference and the speed of your Mac. For very minor changes, it is just as fast to make the edits right on the page (and wait while Xpress reflows everything) as to invoke QXEdit, because Xpress will have to reflow the story when you return from QXEdit anyway.

For substantial overhauls to long stories, you are probably better off exporting the text to a word processor. QXEdit is distinctly slower in straight text editing than Microsoft Word, and WriteNow simply leaves it in the dust. But there is clearly a broad middle ground where QXEdit is an effective tool. It is especially valuable to editors who must adjust text to fit a given space exactly, although, of course, QXEdit doesn't rejustify the text, so it isn't ideal for fitting copy.

As we noted in our March issue (Vol. 6, No. 7, p. 36), it is not wise to stress-test this Xtension. However, in normal use it is stable and reliable. We also feel that a truly good text editor would show actual line and column breaks, at least those that existed at the start of the latest round of editing. This would make it easier to make edits from a marked-up printout. Alas, QXEdit simply fills whatever size window you give it.

Xtensions for Production and Output

CompuSense, $149

ColorManager

This is a four-in-one package. First, like ColorChange, it lists the colors that occur in the document and lets you selectively change them to some other color or tint. At the same time, you can set the "process color" flag that Xpress maintains for each object.

Second, it lets you set the screen angles for the four process colors. Other utilities can also do this (notably a free one from Quark), but it's still handy as part of a general color manager.

Peeking into EPS graphics. A feature that we find incredibly helpful is EPSF Usage. This presents a list of EPS graphics that are part of your document, then looks into each one to discover what colors the graphic may be calling for. It then tells you whether those colors are defined within Xpress--and if one is not, it lets you add the definition to the document's color palette. Thus it will end up on the right spot color layer and you can use the color for other parts of the publication. You can also define whether the embedded color should be output as process separations.

A companion feature is the EPSF Report. It creates a new Xpress document that lists the EPS files and the colors they contain.

Magpie, described below, has some of the same functions. It can peek into graphics, examine their colors and print out a report. However, it cannot update the document's color palette or set their process separation properties; it is purely informative in nature.

Inferior file mover. ColorManager also has a Move Files function, but it is not as flexible as the mover that CompuSense put into the FileManager (described below) and we don't think it is all that helpful. It merely copies an Xpress document, together with its TIFF and EPS picture files, to a designated directory. It can't move fonts or the Xpress Preferences file, it generates no report and it can't even create a new directory to receive its files. We think CompuSense should either upgrade this feature or drop it from ColorManager. ColorManager is rich enough to stand without it.

CompuSense, $149

FileManager

This product serves three distinct and different functions. Each comes into play at a different phase of a document's life.

Creation: the PageManager. The PageManager utility lets you build a

library of page sizes and setups that you frequently use. You can group these setups into sets for convenience. Picking one of these setups creates a new Xpress document with the page size, margins and columns that you predefined. You could, of course, get the same result by using Quark's New File command and typing numbers into the popup dialogs; the PageManager Manager reduces all of that to a single step. If you routinely use several standard page treatments, PageManager reduces the opportunity for errors in setting up a new document.

Tracking: the document manager. The DocManager creates a "header" for your document. This header gives the document's name (alas, always the same as the file name), the author's name and the name of the project it belongs to. The header also shows the document's status: incomplete, draft, proof or final. You can set up default values for any or all of these fields.

That would be boring, except that you can then search for documents based on the values of these fields. (The search routine can also examine the two time stamps, date of original creation and date of latest change, that the operating system maintains for every file.) For example, suppose that John Smith asked you to review a draft of his article, but you have forgotten which directory the file has been stored in. You can ask DocManager for all documents whose author is John Smith (alternatively, whose author field contains the word "John") and whose status is Draft. You also set the search path to scan all the subdirectories in the file server. The search program creates a scrolling list of files that meet the criteria you have set.

From this list, you may select any document to be opened or printed. You can also invoke the FileMover to copy the document and its related files to a separate directory. Or you can erase the document.

The file listing window, while not excessively large, does take up valuable screen real estate. CompuSense therefore has allowed the list to be shrunken down to an icon (shades of Microsoft Windows!) for instant recall at a later time.

It would be nice if DocManager also had a searchable Comments field. We have long felt that the lack of good document management and tracking tools is the biggest single weakness of networked desktop computers. DocManager is hardly going to change that, but for many workgroups it should offer a real benefit.

Output: the file mover. This utility will gather up all the components of an Xpress document and copy them into a designated subdirectory (perhaps on a removable cartridge disk). It copies the Xpress document itself, the EPS and TIFF picture files. Optionally it will copy the fonts (both screen bitmaps and downloadable outlines) that are referenced in the document and the Xpress Preferences file. If an outline font is missing (which is regularly the case for the core 35 fonts), it will generate an error log in the form of a text file that can be read with TeachText or any word processor. But it cannot look into EPS files to see if they have referenced any fonts that should be moved.

Sometimes all you want to move is the fonts. For instance, the service bureau may have done the original scans and given you the viewfiles, so you are using OPI to embed the file references only. CompuSense therefore has a FontMover utility that has just the font functions of the FileMover.

Project tracking. Top: FileManager can create a header for each Xpress document. It can also search the disk for any documents whose headers meet your criteria, building a list of files that you can open, print or prepare for sending to a service bureau. Bottom: The little eyeballs at bottom left of the search dialog track your every move. They are courtesy of a/iCu, which comes with Default Settings.

Magpie

If you've ever looked over the films from a service bureau and found

that the imagesetter mangled one of your EPS graphics, you already understand the value of Magpie. This Xtension lists all of the EPS and TIFF pictures in an Xpress document, much as Quark's own Picture Usage function does. Like Picture Usage, it checks the timestamps on imported files and warns if they have been modified. For TIFF images, it reports some statistics from the image file's header (the tags that the tagged image file format is named for) that may or may not be useful to you.

For EPS files, it lists the fonts that are used in the graphic, marking with an asterisk any fonts that are not available in your system at the present time. If the font is also not present in your laser printer or imagesetter's RIP, the graphic will not print correctly. Magpie thus serves as an early warning of trouble.

In addition, the Magpie Xtension lists the custom colors that are defined in the graphic, again noting with an asterisk any colors that are not defined in Xpress. (Such colors will probably not come out on the correct spot-color layer.) However, unlike CompuSense's ColorManager, Magpie cannot update Xpress's color palette.

Magpie then gathers up the files that a service bureau will need to output your job correctly and copies them into a new folder (perhaps on a removable disk cartridge). It copies the Xpress document itself, the TIFF and EPSF pictures, and the outline font files. It also copies the screen fonts that are being used, placing them into a suitcase file. It does not copy the Xpress Preferences file, but that file is no longer necessary for service bureau output. As it does so, Magpie writes a report listing the fonts used in your document (including fonts called out within EPS graphics) and the custom colors (including colors referenced in imported graphics). For TIFF files, it lists the image statistics.

Our review copy was a prerelease version, but we were surprised that Magpie did not make a copy of a font--an instance of Myriad, an Adobe multiple master font--that it had noticed inside an EPS graphic. However, Magpie did mention its use in the report.

Market comparison. In the market, Magpie competes with CompuSense's ColorManager and FileManager. FileManager gathers files, including fonts and pictures, for sending to a service bureau. ColorManager can inspect EPS graphics for color information, and can update your document automatically if it finds a color that isn't in the palette. However, both of those products do other functions as well. On the other hand, together they take up two more spaces in the menu bar, while Magpie just adds a line to the existing Utilities menu. They also cost more.

Printer's Spreads

As any printer knows, the order in which the pages of a book are printed--the imposition of pages for the press--is not the order in which they will be read. The imposition is determined by the size of the press and the requirements of the folding and stitching machinery in the bindery. The goal is to optimize the use of paper and labor. Imposition can become quite a complex subject, and we are planning an article that will cover the subject in much greater depth at another time.

However, there is one simple case that occurs quite frequently: the saddlestitched book. The paper size is exactly twice the page size, so each press sheet is folded in half to form a four-page signature. Then the signatures are stuffed inside each other and stapled together along their common spine.

This Seybold Report that you are holding is an example. Although we don't know, as we write this article, how many pages there will be, suppose that it were a 32-page issue. (It is always a multiple of four.) Then page 2, the inside front cover, would be right next to page 31, which is the inside back cover. Page 3 and page 30 would be printed together, and so on.

However, it is hardly convenient to design and edit pages in such a zigzag order. This is the where Printer's Spreads comes in. It allows you

to build a document in logical page order, then to output it in imposition order. If necessary, it can restore the original page order.

Clearly, this will only save the printer time if the output device can expose two pages at a time, side by side. Otherwise the printer would still have to restore to manual stripping. Fortunately, the common 8 1/2" x 11" page size is readily output on an 11" x 17" printer or on a roll-fed imagesetter. With a letter-size printer, the largest page you can impose this way is the popular 5 1/2" x 8 1/2".

Printer's Spreads also can compensate for page creep. The closer a page is to the center of a saddlestitched book, the more it sticks out, due to the thickness of the paper. The bookbinder can disguise this fact by squaring the book's edge with a trimmer. However, the content of each page also is displaced, and the net effect is shrunken outside margins. To compensate for page creep, it is necessary to move the page contents toward the gutter.

The distance to move depends on the page number, the total number of pages in the book and the thickness of the paper stock you will be printing on. Your printer can advise you on this. (He will probably count out the sheets, fold up a dummy book, and measure the total creep. He will divide that by the number of pages. Then he will apply a fudge factor based on experience.)

If you have applied a creep when you reorder the pages, you will have to apply a negative creep should you decide to restore the original order. Our inclination would be to avoid the potential problems of restoring and uncreeping by simply archiving the document before we used Printer's Spreads.

Convert Page #s. A companion Xtension to Printer's Spreads (and included on its disk), Convert Page #s compensates for the fact that when you reorder pages, Xpress will update all the automatic page numbers to reflect their new location. That's what automatic page numbering is for, of course, but that's not what you want at imposition time.

To prevent this, execute Convert before you run Printer's Spreads. Convert simply goes through the document and converts all auto numbers to text.

In theory, after you have restored the original (logical) page order, you can then use Convert to turn fixed page numbers back to automatic numbering. As we go to press, an acknowledged bug in the program prevents this from working right with Xpress 3.1, though it is said to work correctly with Xpress 3.0. Again, the easy workaround is simply to restore your document from a backup rather than fussing around trying to undo the changes.

Xdata

A common production task is the routine updating of a published database: a phone list, price book, etc. For many such chores, Xdata can be the tool of choice. We evaluated Xdata 1.0 in our January article on database publishing products (Vol. 6, No. 5). To recap, this Xtension accepts fielded records such as might be exported from any desktop database manager program, spreadsheet or even a word processor. The key requirements are that the file contain only bare ASCII text and that the records and fields be delimited by unique characters.

In other words, Xdata cannot read the native file formats of the database (or spreadsheet or word processor) from which the data originates. You must use the tools provided in the database program to select the desired records, sort them into the required order and export the data in a suitable format.

Xdata. This Xtension automates the importing of database records in field-delimited formats; the delimiters can be chosen from a wide range of control codes. Although it cannot wrap multiple lines of text within a column, it can combine all of Quark's text formatting features with Boolean

logic to lay out the pages.

In many publishing businesses, information might come from many different databases. (Just within Seybold, we have data in dBase and Paradox on PCs, 4D and Foxbase on Macs, Sybase and Progress on Unix boxes, and various rolodex programs on individuals' computers.) To users who hate having to learn yet another database, Xdata's approach will seem a clear disadvantage. But the advantage is that Xdata is not tied to any specific database or computer platform.

What Xdata can do is to read each record and apply character and paragraph styling to the text. Each field in the record can be individually styled, using any or all of Xpress's formatting tools. Xdata can also place the text fields in a different order than they were exported by the database. The placement and styling are governed by a prototype, a "dummy record" to which the desired markup is applied. If there is fixed text that should appear in every record, the prototype is where that is set up. The prototype can also contain scripting commands that perform conditional logic on the data.

Some of our staffers were rather displeased by the need to write a prototype, with its Boolean operators and formal syntax. Others noted that Xdata's scripting language was not very different from the Fourth Dimension database language or Excel's spreadsheet macros. For those with a phobia against programming, a visual programming tool that creates simple scripts for simple jobs would be a valuable improvement.

We recently used Xdata to format an in-house directory of attenders at our February Seybold Seminars event. Given that this is not a very difficult formatting task--several hundred glorified mailing labels, really--we were nonetheless quite pleased with the range of results that can be achieved. We would hate to have to apply the formatting commands manually to each label. We were also pleased with the speed of execution; it averaged about 800 records per minute on our old Mac II.

New in rev 2. With the recent release of version 2.0, Xdata has picked up a bit more layout sophistication. It can now place pictures into an Xpress document; Xpress treats these as anchored (in-line) graphics. This feature is not as powerful as it sounds, though. Xdata can't get the pictures right out of the database. Rather, each picture must reside in a separate file on disk, and the database must supply its file name as part of each record. Xdata basically tells Xpress to perform a "get picture" operation each time it reads a record. (However, we imagine that a future version could use Apple Events to tell the database to export the appropriate picture each time Xdata needs to import one.)

Another new feature is the capability to generate text in the page header or footer, based on the data that is imported to that page. The most common example is a dictionary, where the first word on the page is placed in the header at the top left and the last word on the page is placed at top right.

Other new functions include:

* Ability to set preferences globally or on a per-document basis;
* Support for subfields in data exported from FileMaker (or from 4D's included files, with a bit of 4D programming);
* Data import from the clipboard or from a text box on the pasteboard, as well as from an external file;
* Xpress Tags interpretation for any fields in the imported data; and
* Allowing the prototype to be in any text box in the document (such as on Xpress's pasteboard). Earlier versions required the prototype to be in the same box that the imported text would be flowed into.

Not for tabular. There remains one broad class of database publishing tasks for which Xdata is not suited: tabular formatting. It can only use Xpress's typewriter-like tab stops, so it cannot wrap text into multiple lines within a column, make gutter rules or straddle headlines over

multiple columns. For that task, the appropriate tool would be Npath's Tableworks, a more complex tool for a more complex task. We covered the basic features of Tableworks last August (Vol. 5, No. 12) and will update that with a look at Tableworks 2.0 in our upcoming sequel article.

Conclusion

By enabling the vast array of specialized functions that Xtensions can provide, Quark has been able to sell its desktop publishing program to an amazing range of users. For any given publishing mission, there are usually a couple of "killer" features whose existence makes the software worth buying, or whose absence sends the customer to another vendor. Coupled with the appropriate Xtensions, Quark Xpress has been able to provide these features without distorting its essentially mass-market character.

Quark is not alone here, of course. Many other software products are extensible: Photoshop has enjoyed success because of its Plug-ins, the more so when ColorStudio began accepting the same modules. (That wasn't a bad move for ColorStudio, either.) Aldus has begun to move in this direction with its Additions program, and Letraset, before it faltered in the market, had Annexes for DesignStudio. (Manhattan Graphics will be more aggressive in its development program; see sidebar on page 4.) Ventura Publisher announced its own Extensions developer program last fall.

We are convinced that the future of software development will be even further in the direction of modular, extensible programs. We may have already seen the next step in that direction with Archetype's Document Engine. (For more details, see The Seybold Report on Publishing Systems, Vol. 21, No. 11.) Although currently running only on a Next computer with the NextStep object-oriented development system, it is said to be portable to nearly any operating system and processor architecture. The Engine is explicitly designed to work with external modules; in fact it needs at least one module to provide a user interface. Archetype has published the API and fostered an open committee to carry the concept further.

Just about every major desktop publishing vendor has told us that it keeps getting harder to deliver high functionality at a reasonable price while still making a profit. All are agreed that object programming techniques and modular software products are the best hope for future product development. Xtensions and their ilk are now perceived as minor enhancements to the popular and powerful page layout programs. We think that will change in the next couple of years. The core functionality of text composition and page layout will be taken for granted as a problem already solved. It will be the add-on modules that create value and open up markets.



**Company Names:** Quark Inc.--Product enhancement
**Descriptors:** DTP Software; Software Packages; Enhancements; Software Design; Computer Software Industry; Marketing Strategy; Add-In/On Software
**SIC Codes:** 7372 Prepackaged software
**Trade Names:** QuarkXPress (Desktop publishing software)--Product enhancement; QuarkXTensions (DTP extension)--Design and construction
**Operating Platform:** Apple Macintosh
**File Segment:** CD File 275

1/19/4 (Item 2 from file: 47)
03863064 **Supplier Number:** 13342080 (THIS IS THE FULL TEXT )
**The changing of the guard? (includes related articles on how get consistent frame styles, the top-rated desktop publishing programs, how to customize documents using conditional text,and making the most of in-line graphics) (Software Review) (overview of five high-end desktop publishing programs) (Evaluation)**

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**Abstract:** Five high-end desktop publishing programs are reviewed. The top-rated programs are Frame Technology Corp's $795 FrameMaker 3.0 for Windows and Quark Inc's $895 QuarkXPress for Windows 3.1. While FrameMaker brings 'next-generation' desktop publishing to the microcomputer user, QuarkXPress beats PageMaker in offering the best tools for design-intensive publishing. Aldus Corp's $895 PageMaker 4.0, while facing serious challenges from Frame and Quark, retains its title as one of the best programs for layout-intensive publishing. Ventura Software Inc's $795 Ventura Publisher 4.1 for Windows and $795 Ventura Publisher, OS/2 Edition 3.0 are worthy investments for medium-length publications that have moderate design needs. OS/2 users should use the Windows version because the OS/2 edition of Ventura Publisher's features are based on an older version of the desktop publishing program.

**Text:**

Desktop publishing programs have reached a fork in the road. One path leads to design-driven documents, the way mapped out by tools that inspire artistic expression. The other path leads to content-driven publications, where data manipulation and document-management functions determine the form of the final product. But in this scenario it is users, not developers, who are the pathfinders. Their needs and real-world challenges make this either-or not only necessary but desirable. And where users go, developers are sure to follow.

Of course there is common ground among high-end DTP programs. In fact, the five packages we look at here--Aldus PageMaker; FrameMaker 3.0 for Windows; QuarkXPress for Windows, Ventura Publisher 4.1 for Windows; and Ventura Publisher, OS/2 Edition--all met the same requirements to qualify for review in this story. They all cost less than $1,000 and can produce documents of at least 100 pages in length. Their sophisticated typographic controls include support of Adobe Type 1 fonts, paragraph-level named styles or tags, and the ability to specify type and leading in fractional point increments. Each program's layout capabilities include text flow to discontiguous pages and import filters for color images in EPS and TIFF formats. Finally, all of these programs offer cross-compatibility with the Macintosh.

There are other high-end publishing products that failed to meet all of these selection criteria. Interleaf 5 for DOS exceeded our price cutoff

of $1,000. Interleaf's pricing structure, which is aggressive for multiuser installations, offers economies of scale to large companies. But the basic 5-person workgroup package costs $8,000 or $1,600 per station. Interleaf is where you go when Ventura Publisher and FrameMaker seem too underpowered for your needs.

DECwrite Pro from Digital Equipment Corp. was eliminated from this review because, though Digital offers a Unix version, DECwrite does not run on Macs. Cross-platform compatibility with the Mac is no longer an oddity or a luxury; it is a necessity if you want to achieve high-quality output at the many Mac-centric service bureaus.

Though all five products met the selection criteria, they nevertheless travel divergent paths. It's fair to say that PageMaker and QuarkXPress are intended more for design-driven documents. They both allow an art director to fiddle, tweak, and finesse a design by providing easy access to typographic and picture controls. Both programs also offer the most artsy features, including the ability to create and edit irregular text wraps and to colorize imported gray-scale images.

In contrast, Ventura Publisher and FrameMaker are designed for content-driven documents. These programs stress continuity controls, such as automatic numbering schemes for chapters, captions, tables, and even individual paragraphs. Anchoring a graphic to text, generating a table of contents, and creating an index are essential tools for long documents. And because they expect their users to massage complex data, both Ventura Publisher and FrameMaker have table and equation editors.

THE DTP CONTINUUM

Generalizations aside, these products do not divide neatly into two opposing camps; examining each program's feature set reveals instead that the programs are spaced out rather evenly along a continuum of functionality. PageMaker and Ventura previously defined the extremes of high-end DTP programs; now they define the middle. Ultimately, that's good news for buyers: No matter what the application, you can find a powerful desktop publishing program with the right feature mix.

At one end, QuarkXPress offers truly creative tools such as free rotation of text and graphics and gradient fills. Moving toward the center, we see that PageMaker supplements its heavy-duty design functions with a few key document-management features, such as book creation and table of contents generation.

In addition to its long-document expertise, Ventura Publisher contains robust design tools: Automatic drop caps and automatic bulleted lists are just two of many. Finally, FrameMaker pushes the envelope of document management with features like conditional text (read the sidebar "Customize Documents with Conditional Text") and the ability to search for unresolved cross references.

The products reviewed here are all capable--even elegant--desktop publishing programs. They can all create a wide variety of documents. So to help you with your decision making we would like to suggest a new approach: Don't simply consider what you want to publish, consider how you want to publish it.

WORKGROUP PUBLISHING

If you want to produce publications in a workgroup environment, you will need a program with special features. These days, simple file locking is a routine function handled by your network operating system and your operating environment. So for producing publications in a workgroup environment, look for a program that also warns you that a publication is in use, but still allows you to open either a working copy or a read-only version. Similarly, you will want shareable templates. After all, what is the value of a template residing on the network if multiple users can't open individual copies?

Though it may not seem like a network-related issue, cross-platform

binary compatibility at the publication level is essential. Consider a network installation that includes PCs, Macs, and Unix workstations. With binary-compatible file formats, you can open a file from any node on the network, regardless of the hardware platform. Keep in mind, however, that many variables play a part in compatibility and that moving from platform to platform may require compromises.

Finally, a desktop publishing program must be equipped with extensive file-linking and file-tracking functions. These will allow you to manage the various elements in a publication as well as multiple contributions via the network. It isn't sufficient for a publishing program to track only imported pictures, because most DTP documents are text-intensive. So look for a program that can link and track external text files, too. The DTP program should have the ability either to perform an automatic update or to alert you if the external source file has been modified.

THE INTERLEAF ALTERNATIVE

As you read the reviews and analyze the features table you'll discover that the current crop of DTP products have serious shortcomings where workgroup publishing is concerned. The program on the market with the greatest number of workgroup features isn't reviewed here. Interleaf 5 for DOS (800-955-5323) deserves your attention if you are considering an enterprise-wide publishing venture. With Interleaf, two users on a network can share the same electronic desktop and work on pieces of the same document simultaneously. The Interleaf UI (User Interface) can also be customized for specific users (based on the user's network sign-on). For example, an executive profile might load a version of Interleaf with limited functionality. The executive would be able to read and annotate--but not modify--a document.

Though it comes at an additional cost of several thousand dollars, Interleaf 5 offers a revision tracking system. This utility keeps a running log of all the changes made to a document. In addition, an electronic trail lets users roll back through the various revisions to retrieve an earlier version of the publication.

Interleaf's migration to the DOS platform and the announced Microsoft Windows NT version of the product are both harbingers of things to come. In fact, as the Windows environment matures (with the release of 32-bit Windows NT and the more robust OLE 2.0 specification) other desktop publishing programs will begin to offer similar functions.

Conversely, OS/2 development for this market has slowed to a crawl. Only Ventura offers an OS/2 version of its product (Aldus has taken PageMaker for OS/2 off the market) and that--Ventura Publisher, OS/2 Edition--is comparable to a much earlier version of Ventura Publisher for Windows.

THE WATCHWORD IS EXTENSIBILITY

No electronic publishing program contains the perfect feature set--yet. However, it is increasingly possible to create a near-perfect DTP package by modifying the core program. Today, GUI-based desktop publishing programs are extensible through the use of OLE (Object Linking and Embedding) links and DLL (dynamic link library) modules.

QuarkXtensions are certainly the best known example of add-on functionality. A firm schedule was not available at press time, but by the beginning of 1993 a considerable number of QuarkXtensions will move from the Mac to the PC, including Xdata from Em Software (a database publishing extension), Sonar Bookends from Virginia Systems (which automatically generates a table of contents or index), and CopyFlow from North Atlantic Publishing Systems.

But Quark does not have a monopoly on the idea of program extensions. The next version of PageMaker will include Aldus Additions (which are already in PageMaker for the Mac), through which third-party manufacturers can enhance PageMaker's functionality. Aldus Additions differs from

QuarkXtensions in a number of ways. Most notably it includes a macro language that allows end users to develop custom applications. And Ventura ColorPro, Ventura Separator, and Ventura Scan add terrific scanning and color separation functions to Ventura Publisher. In fact, Separator and Scan are bundled with the latest version of Ventura Publisher.

Most impressive is the recent announcement from Frame Technology: FrameBuilder is a new product best described as a fully extensible version of FrameMaker. With FrameBuilder, which is currently available only on Unix systems, it will be possible to integrate publishing functions into other nonpublishing applications. For example, a corporation could create a custom application that looked and behaved like their standard database program but included FrameBuilder's document creation and management functions.

To give credit where credit is due, Interleaf has delivered this level of customization for years. The Interleaf Developers Toolkit requires programming expertise but can be used to add unique functions to the program, to customize the user interface, or to build completely new applications.

WHAT'S IN A NAME?

New catch phrases, such as "business-critical documents", or "enterprisewide publishing" attempt to evoke both the increased importance and broader scope of the publishing process. Whatever else it may be, high-end electronic publishing is not about 300-dpi laser-printed output. Professional art directors--almost by definition--work in a PostScript environment. In order to offer full functionality, such as 360-degree rotation and gradient fills, PostScript code is the only reasonable way to go. And PostScript printers offer advantages over PCL printers. For example, if your PostScript printer vendor supplies a PDF (printer description files are common on the Mac), QuarkXPress can access the information in order to generate optimal dot shapes and screen angles.

So in addition to considering how you will create your documents, you must consider how you will distribute them. If you intend to reproduce your publications via the offset printing process, make sure that the program you choose speaks the language of a professional pre-press shop or commercial printer. Your printer may want you to generate color-separated PostScript files. If you are going to generate the separations, you must distinguish between the different types of color separation offered by electronic publishing programs. The easiest and most common form of separations contain only spot colors. Of the programs in this roundup, only QuarkXPress gives you sophisticated trapping functions that let you control the ultimate quality of spot-color (also called two-color) separations.

QuarkXPress and Ventura Publisher with the Ventura Separator module can generate four-color separations--but only if the imported bitmapped images (in either .TIF or .DCS formats) contain pre-separated CMYK information. Only Ventura Publisher's ColorPro extension can convert RGB data into CMYK data.

To work successfully with a service bureau your software will have to do more than print four pieces of film. It must transmit detailed instructions to the prep house. Several different mechanisms are emerging as industry standards. OPI (Open Press Interface) comments give a service bureau invaluable information concerning the placement and size of picture files. In addition, SGML (Standard Generalized Markup Language) establishes a basic set of conventions to describe both the structure and formatting associated with a document. (For more information on SGML and its uses, read the sidebar "SGML: The Quiet Revolution.")

PAPERLESS PUBLICATIONS

If you are interested in the future of electronic publishing you must look past the paper-based publications with which we are all familiar, toward a time when electronic distribution of a publication will be

commonplace. Of the four programs reviewed here, only FrameMaker has a companion on-screen document reader. The $89 FrameViewer takes advantage of the electronic medium with hyperlinks that allow the reader to quickly navigate a document and OLE functions that can incorporate sound and video elements into an electronic publication.

To paraphrase Marshall McLuhan, in high-end desktop publishing the medium mirrors the message. Information in the 1990s is culled from many sources; it is constantly revised and annotated and then streamlined for high impact or easy consumption. While not perfect, the four programs reviewed here have responded to this new and challenging information model with increased workgroup capabilities, automated updating mechanisms, and state-of-the-art design tools. Any one of them can take your documents in new directions.

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RELATED ARTICLE: Suitability to Task: High-End Desktop Publishing Software

The variety of documents you can produce with today's high-end DTP software is limited only by your imagination, but any use you have in mind will probably fall into one of our four Suitability to Task categories. The old DTP favorites--Aldus PageMaker and Ventura Publisher--tend to be solid rather than stellar performers across a broad range of document types, while FrameMaker and QuarkXPress are masters at very specific types of applications.

To evaluate each product's facility at a range of tasks, our reviewers created two documents. The first was a four-page newsletter created using a variety of imported text files, imported graphics, and both Adobe Type 1 and TrueType fonts. The front page of the newsletter included white text overprinted on a TIFF bitmap, an EPS logo, and force-justified reverse text on a background of 30 percent gray tint. The inner two pages formed a spread that contained a footer; a gray-scale TIFF bitmap cropped to an ellipse, contrast-adjusted, and placed behind a text callout; an imported and rotated three-color HPGL file; mixed two- and three-column layouts on each page; a byline inset into the text; a formatted table; a title rotated to an odd angle; and a sidebar with a custom tinted background. We jumped the stories onto the last page of the newsletter, with "continues" and "continued from" tag lines to indicate the jump.

The last page also contained text wrapped around an irregularly shaped piece of clip art in CGM format and an article with a drop cap three lines deep. Various elements of the newsletter were tinted with custom-created spot and process colors. We printed the publication to both an HP LaserJet III and a Tektronix Phaser II (a color PostScript printer).

For our second document, we created paragraph styles and imported a 100-page tagged-text file. We then inserted tables, equations (for those packages that include an equation editor), a running header and footer (containing subheads picked up from within the document text as well as page numbers), and footnotes, some of which jumped to a second page. Finally, we generated a table of contents and a two-level index, which used page-numbering schemes different from the rest of the document, and we printed the document on the LaserJet III.

In the course of creating the two publications, we also tested workgroup capabilities such as file sharing and link tracking on a NetWare network, and electronic distribution functions.

To excel at creating highly designed publications, a product must have sophisticated typographic controls (such as automatic drop caps, precision leading, kerning, and tracking capabilities, and robust font handling),

handle a myriad of graphics formats without problems, be able to mix custom spot and process colors, offer robust tools for generating complex page layouts, and accurately output attractive pages.

In addition to handling large amounts of text, a product that is superior for creating long documents should offer sophisticated continuity controls. These include complex page numbering schemes, intelligent figure placement, and cross referencing, as well as flexible running headers and footers.

The package should also be capable of automatically generating a multiple-level index and a table of contents, as well as footnotes and endnotes.

Capabilities central to electronic publishing and distribution include flexible control over display--for instance, intelligent font-mapping solutions or the ability to construct pages with display-based aspect ratios--as well as some level of intelligent interactivity. The program should be able to create small files for efficient distribution, and the vendor should supply a convenient method for distributing documents and provide robust error-handling methods to deal with cross-operating system incompatibilities.

A product useful for workgroup publishing must have robust network support and, at the very least, allow multiple users to share templates. Having versions of the product that run on a variety of platforms is a definite plus. Optimally, the product should offer linked-file tracking and management, redlining, and update tracking.

RELATED ARTICLE: EDITOR'S CHOICE

FrameMaker 3.0 for Windows

QuarkXPress for Windows, Version 3.1

PC-based desktop publishing has always been a two-party system: long documents versus design-intensive ones. The names have changed but the parties remain the same. The reigning leader for long documents, Ventura Publisher, has lost its seat to FrameMaker 3.0 for Windows. FrameMaker's conditional text lets you turn any magnum opus into a series of customized opera. Combined with a powerful equation editor, advanced table-of-contents and index-generation capabilities, and support for on-line viewing and distribution, FrameMaker brings next-generation document publishing to the PC.

Similarly, QuarkXPress for Windows supplants last decade's ruler, Aldus PageMaker, for the creation of design-intensive publications. QuarkXPress provides unprecedented control over typography, the placement of elements, and pre-press functions--all via one of the most intelligently designed interfaces we've seen this year.

But just because they've been unseated doesn't necessarily mean that PageMaker and Ventura are out of the running. Quark's decision to sacrifice quality support for low-cost output devices leaves PageMaker as the best high-end DTP product for the millions of users who rely on PCL-compatible and ink jet printers. It also remains the strongest all-around product for users who need to create a broad spectrum of document types.

By the same token, FrameMaker's lack of color support puts Ventura Publisher for Windows in a strong position for long-document creation. Users who feel that complex content deserves a colorful treatment will find Ventura's excellent internal and add-on color capabilities more than enough reason to buy the product. If you're running OS/2, you're probably better off running the Windows version of Ventura Publisher than the older, less feature-rich OS/2 Edition.

RELATED ARTICLE: SUMMARY OF FEATURES

High-End Desktop Publishing Software

All of the DTP products we reviewed have certain capabilities in common; some of the most important ones are listed below. The table on the following pages is designed to highlight the distinctive attributes of the

various packages.

What All the Products Have in Common

General

All products require 4MB RAM. All run in the graphics modes supported by their operating environment. All have a user-definable font greeking threshold. All have one level of Undo. All have on-line help. All have a paper tutorial. All include sample files.

Platform Support

All support LANtastic, Microsoft LAN Manager, and NetWare. All can run from a server (though only one instance of QuarkXPress can be open at a given time). All can share network printers. All support the Macintosh platform and Windows.

Document Layout

All allow editing in facing-pages view. All allow you to specify custom page sizes. All can automatically create new pages during text import. All let you add and remove pages. All let you start numbering at a new page number. All do consecutive numbering across a document. All show the cursor position on the ruler. All offer column guides. All offer snap-to grids.

Fonts and Typography

All support Adobe Type 1 fonts. All do all caps. All do colored or tinted type. All generate knockout type. All allow you to kern manually. All permit negative leading and tracking.

Text Handling

All can import plain and tagged ASCII text, as well as WordPerfect text files. All support paragraph styles. All let you manually override hyphenation. All can search and replace formatting attributes.

Graphics Handling

All can link graphics to text in some way. All can import CGM files and EPS files with TIFF preview. All can import monochrome and gray-scale .PCX and TIFF files. All can import Windows metafiles. All can draw lines, rectangles, circles, and ellipses. All provide fixed-percentage tints. All let you crop and scale graphics.

Output Support

All let you select the number of copies to print. All can print trim marks. All can output to any device supported by the operating environment.

RELATED ARTICLE: Making the Most of In-line Graphics

PageMaker contains a number of powerful formatting tools to automate document creation. But until Version 4.0 came along those functions, which include defined style sheets and automatic column creation, could only be applied to text--not pictures.

The current version of PageMaker does not offer formatting functions for pictures per se, but it does support in-line graphics. When you create an in-line graphic, PageMaker adopts a split personality toward the picture. With the arrow tool selected, PageMaker sees the object as a normal picture. You can, for example, resize and crop the image. With the text tool selected, PageMaker treats the picture as though it were just another character in your story.

Of course you can't apply font, point size, position, or type style attributes to an in-line graphic; after all, it is not a true letter. But you can apply any paragraph-level format to an in-line graphic, as long as you remember to put a carriage return before and after the picture.

Here are just a few of the possible design applications:

You can center a picture perfectly within a column by making it an in-line graphic and using the Center alignment option. The only caveat is that the column must be wider than the graphic.

You can save yourself the hassle of drawing and aligning rules above or below each and every picture in a document. Simply create a defined style and include automated paragraph rules. Just as with text, you can

specify the position of the rule in relation to the baseline, you can choose a color for the rule, and you can have the rule span the entire width of the column or only the width of the picture. Best of all, you can rest assured that every picture in your document will be formatted identically.

You can use PageMaker's Paragraph Options to automatically position pictures on the page. For example, the Column Break Before or Page Break Before options will guarantee that an in-line icon always appears at the top of a page--even if the text reflows.

RELATED ARTICLE: Customize Documents With Conditional Text

If you have to maintain several versions of a document or manage complex documents that will be used by different types of users, FrameMaker's "conditional text" will give you powerful new controls. You can use it to replace, show, or hide any element used in a publication. For example, you can use conditional text to author two versions of a textbook: one for teachers that includes answers to all exercises, and another for students that omits the answers.

Designing a publication with conditional objects means doing some extra planning and defining a set of consistent standards. The program uses a special tag to identify and format an object, in addition to an item's normal formatting tag. Setting the Show or Hide option includes or removes an element from the display or printout. The condition tag also can be set to override part of the formatting normally used for a type of block.

To make it easier for your readers to identify conditional text, be sure to format it in a uniform way throughout your document, either by using a specific font attribute or color to set it apart. This also makes it easier for you to locate such elements for revisions. If you're importing conditional objects, such as graphics or spreadsheets, you'll want to plan the disk location of those files so they are easy to locate and archive later.

RELATED ARTICLE: Wrap Text Inside a Graphic

QuarkXPress offers a totally unique function that lets you place text inside an irregular shape. Here's how to create this unusual text effect.

First, create a text frame and either import or type your copy. Then draw a picture frame and import a picture: It helps if the picture has a clearly defined outline.

Position the picture frame over the text frame. Be sure that the box containing the text is one level behind the picture you want to use. If you've drawn other objects, use the stacking commands to be sure that these two items are correctly layered.

With the picture box selected, open the Runaround Specifications dialog box from the Item menu; choose the Manual Image option. Quark will now create an outline of your picture. This outline--also called the runaround polygon--comes complete with handles that can be used to fine-tune the text wrap.

Click the Invert option box. This takes the text that should run around the irregular polygon and places it inside the irregular polygon. Click OK to return to your document.

You'll notice that the text is overprinting the actual picture. This may be the effect you want; If you don't want the text to overprint the picture, you can delete the picture without disrupting the text. QuarkXPress will leave the irregular polygon in place.

The relationship between the irregular polygon and the text that wraps within the polygon is quite stable. You can also resize the text box or the picture box and even reshape the polygon using Quark's tools.

RELATED ARTICLE: Getting Consistent Frame Styles

If you need to apply a consistent style to frames and figures, try using frame tags, the latest addition to Ventura Publisher's arsenal of global formatting tools. In the past, each frame had to be formatted

individually (with the exception of the underlying page). You could always set attributes for the color, border, columns, pad, margins, and local typographical controls for individual frames. But with its latest release Ventura has added the frame tags that let you change the attributes of all frames with a given tag, much the same way you can format and reformat text using tags.

There are some differences, however. With text, any "untagged" paragraph is automatically assigned the body-text tag, which cannot be deleted. Untagged frames, though, are completely autonomous and do not have to be tagged at all. In fact, some, like headers, footers, footnotes, captions, the base page, and repeating frames, can not be tagged. Since captions are attached to another frame, you can use frame tags to define auto-numbering for all figures with the same tag.

Using the new tags is very simple. You select or create a new frame, then open the Frame menu and choose Add New tag. Give the tag a name, then use the regular menu options to set any desired attributes. To apply the tag to another frame, you just select the object and choose the appropriate tag from the drop-down list on the button bar. To untag a frame you perform the same operation, choosing the No Tag option. Frame contents, location, anchor name, and graphics are not saved with the tag information, just the format.

[TABULAR DATA OMITTED]



**Special Features:** illustration; table; photograph
**Company Names:** Aldus Corp.--Products; Ventura Software Inc.--Products; Quark Inc.-- Products; Frame Technology Corp.--Products
**Descriptors:** Desktop publishing--Computer programs; Software--Evaluation
**SIC Codes:** 7372 Prepackaged software; 7371 Computer programming services
**Ticker Symbols:** ALDC
**Trade Names:** Aldus PageMaker for Windows 4.0 (DTP software)--evaluation; FrameMaker for Windows 3.0 (DTP software)--evaluation; QuarkXPress for Windows (DTP software)--evaluation; Ventura Publisher for Windows 4.1 (DTP software)-- evaluation; Ventura Publisher, OS/2 Edition 3.0 (DTP software)--evaluation
**File Segment:** CD File 275

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01899559 **Supplier Number:** 17959402 **(This Is The** FULL TEXT )
**The publishing face-off.(comparison of Windows 95 and Mac OS for desktop publishing) (Software Review)(Evaluation)**

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**Abstract:** The emergence of Microsoft Windows 95 is posing a challenge to the Macintosh OS, but desktop publishers will not be rushing to change platforms anytime soon. Whether or not Windows 95 will displace the Mac in years to come is likely to depend on the type of desktop publishing that is being performed. Users making decisions based on price, or those requiring long-document automation, would likely do best with Windows. However, many desktop publishers find the Mac's many advantages more important. Users need to consider whether the platform provides the requisite facilities for job implementation, whether it supports the programs and utilities needed, and whether it offers the performance required at an affordable price.

**Text:**

Get over it. Windows 95 is here, and it's way too big to ignore. By the time you read this, only a few months after its release, Windows 95 will have more users than the 12-year-old Macintosh.

With that in mind, Macworld set out to determine which platform, if either, is superior. We compared overall usability to see how much of a threat Microsoft's latest graphical interface is to Apple's long-recognized ease of use (see "Is the Mac Still the Easiest to Use?" elsewhere in this issue). We compare Mac and Windows 95 in the area where the Mac is most firmly established: the graphics and publishing market. And we ask, Is the Mac's historical stronghold safe? What does the future hold for Macintosh-using publishers? Will Apple retain their loyalty? Or should you be thinking about making a switch?

The short answer is, you don't need to switch. The long answer is more complex. Users concerned with long-document automation, and those for whom price is the most important decision point, should think seriously about using Windows. For the huge majority of desktop publishers, however, the Mac's many compelling advantages heavily outweigh Windows' lead in price/performance and automation.

As soon as Microsoft announced the features of Windows 95, Macintosh users pointed out that many of the new Windows capabilities were things the Macintosh has had since 1984. We hate to say it, but this argument is irrelevant. We're skeptical about everything, including the Macintosh, and what we really need to know is, does Windows 95 provide anything for the desktop publishing user that the Mac does not? To some extent, the answer to that question depends on what kind of desktop publisher you are.

Desktop Publisher Profiles

If there's one thing we've learned in the years we've spent talking to desktop publishers, it's that there's no such thing as a desktop publisher.

There are all different types. Some produce short documents, some long; some use lots of images, some hardly any; and some are font-crazy, while others use the same fonts for years.

The different types of desktop publishers have different system needs. As a kind of shorthand, here is a classification of desktop publishing types. (This scheme is somewhat arbitrary, of course; most users fall into more than one category.)

Laser Level

You'll usually find Laser Level types in small printshops or in-house publication departments, producing short documents such as newsletters, flyers, brochures, and small reports. They stick to simple clip art or diagrams, with occasional line art or gray-scale scans; when they print camera-ready pages, they use laser printers. They do occasional spot-color work, but rarely work with process colors or color images.

Design Doctors

These are the desktop publishing users whose work wins graphic-design awards. Design Doctors' publications require complex typography, EPS graphics, and scanned images--line art, gray scale, and color. Their publications are an equal mix of one-, two-, and four-color work. Their camera-ready pages are printed on imagesetters.

Image Makers

Catalogs, glossy magazines, and other publications that use scanned images and complex EPS graphics are the Image Makers' stock-in-trade. They use process color, with occasional jobs running two, five, six, or seven colors. Like Design Doctors, Image Makers print on imagesetters--they have to.

Bookmakers

Long, structured documents such as books, proposals, reports, and technical documentation are the lifeblood of Bookmakers. Their publications contain line art (scanned images and EPS graphics), as well as some gray-scale art, but rarely contain color. Bookmakers spend lots of time working with tables. Their camera-ready artwork usually comes out of a laser printer, but they sometimes print to imagesetters.

With these categories in mind, we can compare Windows and Mac systems to see how the platforms help or hinder these different types of users.

What's in a System?

Desktop publishing is the great integration game--pulling together hundreds or thousands of disparate elements into what you hope is a cohesive whole: your publication. For DTP you need fast processors, fast display systems, big hard drives, all sorts of peripherals, and more varieties of software than we like to think about. And it all needs to work together without constant tending. A system that makes integration easy is a huge boon for desktop publishers, especially those producing complex projects.

We'll cover three major areas in evaluating the two platforms.

* System-level features that are important for desktop publishing, including fonts, printing, color management, and graphic display.
* The software tools available.
* Price/performance ratios.

In all those areas, we ask one big question: Does this aspect of producing publications provide a reason to choose one platform over the other? That is, does Windows or the Mac have the advantage for each type of desktop publisher?

Ease of Use

What about the little things an operating system provides that you need for your publishing projects? Is it as easy to copy a file, open a folder, or switch drives in Windows 95 as on a Macintosh? Yes, it is, with some caveats.

Long file names in Windows 95 actually make the system usable--or they

will, once all your applications support them. In fact, Win 95 leapfrogs the Mac's 31-character limit on file names with a 256-character limit, which may be useful for Bookmakers and others whose documents contain many similar elements or go through many revision cycles.

Windows has no file-tagging scheme like the Mac's hidden Type and Creator codes, however, so identifying what a file is--even in Windows 95--means studying those cryptic and limited 3-character file extensions. A file with the extension .doc could be a Microsoft Word file (but which version of Word?), or it could be a saved scenario from your favorite shoot-'em-up game. And more to the point, the extension .pub can indicate Ventura Publisher documents and Microsoft Publisher documents; double-click on a file with that extension and Windows will launch the most recently installed application that uses the .pub extension, even if it's not the right application.

Many other features on the two platforms are quite similar or equivalent, however. Windows' shortcuts are pretty much the same as aliases on the Macintosh (though shortcuts lose their targets much more easily than aliases do). Visual Basic for Applications provides Windows with a system-level scripting language, just as AppleScript does on the Mac. OLE is the method used for interapplication communications in Windows; Apple events does the same thing on the Mac. You get the idea.

That said, we'd also point out that it's far easier in Windows to reach areas that should be marked "still under construction"--something that's practically impossible to do on the Mac, unless you fiddle with programmers' tools such as Apple's ResEdit. With Windows, the guts are just beneath the surface. Some cite it as a Windows advantage that you can get at the underlying Registry or text-based control files, but that fact underscores a Windows disadvantage as well: you'll probably have to get at them.

Working with Fonts

On the Mac, whether you're using TrueType or PostScript Type 1 fonts, you just drag them into the Fonts folder and they install themselves, though you have to quit all active applications first, which infuriates us. But two excellent, inexpensive utilities--Suitcase (2.1.4; Symantec, 503/345-3322; $79) and our favorite, MasterJuggler (1.9.1; Alsoft, 713/353-4090; $69.95)--solve that problem and provide almost all the font handling you could ask for.

We expected Windows 95 to improve on Windows 3.1's font handling, but nothing much has changed. TrueType fonts are now handled via a Registry, which makes things easier for Laser Level users, but there's still no support at all for managing PostScript Type 1 fonts. You can manage fonts with Adobe Type Manager (Windows version 3.0.2; 415/961-4400; $39.95) or the excellent FontMinder (3.0; Ares Software, 415/578-9090; $149.95), which can handle both Type 1 and TrueType, but Windows' font handling still presents several problems.

* Changing printers or font configurations in Windows can affect the spacing of fonts in your publications, so your text reflows. This is no longer a problem with PageMaker (6.0; Adobe; $895) or QuarkXPress (3.31; 303/894-8888; 680X0 Mac and Windows $895; Power Mac $995), which format pages for a printer you specify instead of for the printer selected in the Print Manager, but the problem still rears its head with the less typographically sophisticated programs that Laser Level users favor (see "Windows' Risk of Reflowing Text").

* There are no ligatures (such as fi and fl) in the Windows 95 character set. You have to switch to an expert-set font to find ligatures--if the font vendor has one available for that typeface. This is a royal pain, as it requires that you manually select the ligatures one at a time from the expert set. It also slows down printing. (Neither platform offers ffl, ffi, and other ligatures for sophisticated users as part of the

character set.)

* Tapping the print-speed advantages of manually downloaded fonts requires that you constantly update your font settings by using FontMinder, by manually editing your win.ini file, or by deinstalling and then reinstalling fonts with ATM.

* You must install everything in the right order. If you install your printers and printer drivers first, then ATM, and then your Type 1 fonts, you'll be fine--as long as you don't add printers or ports. If you do add a printer or port, you need to use ATM to reload all your fonts so they're added to the list of fonts available for the new printer or port. FontMinder addresses this problem.

On the other hand, applications running under Windows seem to handle large numbers of installed fonts--more than 500--without balking or slowing down, unlike their Mac counterparts.

Seeing Your Work

We hear a great deal of hoopla about the Mac's QuickDraw and Windows' Graphic Device Interface. For the desktop publishing user, it's almost a wash--the two systems are equivalent.

The Mac provides one huge display advantage for desktop publishers, however--the ability to connect more than one monitor, even of different resolutions or color capabilities, and drag items between them as if they were contiguous. You can connect more than one monitor to a Windows machine, but both monitors display the same thing.

Aside from that one significant Mac advantage, the differences have more to do with features of the display system. The Mac offers better calibration and color management, while Windows is way ahead in terms of the cost of fast, high-quality video cards--though video cards for the high-end Macs that feature PCI cost about the same as they do for PCI Windows machines.

Managing Color

The age of plug-and-play, what-you-see-is-what-you-get color hasn't arrived yet on either platform, but color management--the key to that scenario--is quite a bit further along on the Macintosh. Image Makers and Design Doctors, take note: color management is definitely the future for automated color correction and separation. It's something you want and need, even if you don't know it yet.

PageMaker and QuarkXPress offer color-management systems on both platforms--Quark provides EfiColor, and PageMaker provides Kodak Precision Color Management System, or KPCMS. Both platforms also offer system-level color management--the Mac has ColorSync, and Windows has Image Color Matching (ICM). Both of those systems are based on capable color-management engines--the Mac's ColorSync is based on LinoColor, and Windows' ICM is based on KPCMS (though Kodak says ICM is a less capable and less accurate, or "detuned," version of KPCMS). And both platforms' color-management tools are currently useless for desktop publishers, because none of the important desktop publishing applications take advantage of them. These programs all handle color and output on their own (PageMaker 6's KPCMS is independent of ICM).

There are also several stand-alone color-management tools on the Mac, generally supporting Adobe Photoshop (3.0.4; $795). Thanks to the Mac's cohesive approach to monitor and display-card support, monitor calibration really does work pretty well. Kodak's ColorMatch and its kin, in particular, offer a beginning-to-end selection of color-management tools available only on the Mac.

Finally, color management is one area where the PowerPC chip really shines--the calculation-intensive job of color management is much faster on the Mac.

Printing

If desktop publishing is about anything, it's about printing--getting

your brilliant designs out into the real world. In this area, the Mac gets the laurels for ease of use, but Windows wins for speed.

AppleTalk and Ethernet networking are taken for granted on the Mac, as is two-way communication between the Mac and the printer. This makes using a PostScript printer almost transparent--LaserWriter 8.3, the Mac's PostScript driver, can ask the printer what fonts or how much memory it has, for instance, and download the fonts automatically.

ATM and FontMinder can make Windows download fonts automatically for you, but the one-way nature of the parallel printer port on all but the most recent Windows machines prevents printer drivers from querying the printer about what fonts it has installed. So it will blithely download the fonts needed to print your document, even if you've already downloaded them to the printer's RAM or hard disk. To prevent this, you need to update your font configuration every time you download a font or re-set your printer.

If you're a Macintosh user, have ATM installed, and print to a non-PostScript printer, your PostScript fonts print as they appear on your screen. Switch to a PostScript printer or imagesetter, and nothing much changes. Under Windows (as we mentioned above), you may see your text shift around in some applications when you switch printers.

At present, Macintosh users have a huge advantage with imagesetting service bureaus. Most bureau operators are Macintosh users, and many service bureaus don't even own a Windows PC; in San Francisco, for instance, only a couple of service bureaus support Windows directly. This will change over time, but for now, service bureaus frequently print Windows files by opening them using the Macintosh version of the program used to create them--often with disastrous results (see "Windows Users Face Service Bureau Problems").

Automating Tasks

Okay, Bookmakers, this one's for you. The area where Windows leads the Mac most resoundingly for desktop publishers is layout automation. Windows offers excellent database-publishing tools not found on the Macintosh, such as InfoPublisher (2.0; Adobe, 800/685-3547; $129), an addition for PageMaker, and Ventura's Database Publisher, which comes with Ventura Publisher. And you can easily roll your own tools using Microsoft Visual Basic.

You can use AppleScript to automate layout processes on the Macintosh, but the Apple events pipeline for sending commands to your page-layout application is slow--very slow--compared with Windows' Dynamic Data Exchange.

Equally important, automation is second nature to people in the Windows world, whereas the topic often elicits a blank stare on the Macintosh side--it's much easier to find a tutor or consultant to help automate your Windows-based database-layout program.

There's one big exception to Windows' lead in publishing automation: there are excellent database-publishing and table-making XTensions for QuarkXPress on the Mac that are unavailable for the Windows version. XData (2.5; Em Software, 614/284-1010; $299) and TableWorks Plus (2.1; Npath Software, 206/392-7745; $299) are two excellent examples. Aside from this significant advantage, though, Windows machines have automated long-document publishing down cold.

The Publishing Tools

One of the main reasons--maybe the main reason--for choosing one platform over the other is the number and quality of programs and utilities available for that platform. Windows has a numeric advantage here, with programs that don't exist and have no equivalents on the Mac. Of the main desktop publishing applications, however, the Windows versions of some are deficient compared with their Mac counterparts. And the number and quality of DTP utilities on the Mac--such as PostScript downloaders and graphics converters--far surpass those available under Windows. Here's a roundup of

significant programs and how they compare on the two platforms.

Adobe PageMaker

PageMaker version 6 is almost identical on the two platforms, with the exception of some differences in import and export filters. The Power Mac version doesn't demonstrate the same speed increase over the 680X0 version that other Mac programs do, however, so with the exception of color-management tasks, the Windows version is a noticeably better performer than the Power Mac version running on a price-equivalent machine.

QuarkXPress

QuarkXPress for Windows is missing several of the Mac version's features--mainly ones that rely on system-level technologies. There's no scripting, since XPress's is based on AppleScript; no automatic ligature generation (no ligatures in Windows, remember?); and no custom frame generation. Perhaps most important, many of the XTensions available on the Mac aren't available for Windows. And the Power Mac version of XPress really moves; for most tasks, it's faster than the Windows version on price-equivalent machines.

For Design Doctors, Image Makers, and Bookmakers in XPress shops, there's no reasonable choice but the Mac. Laser Level folks will find the Windows version of XPress to be very solid and speedy, but Windows users have less expensive and easier options such as Microsoft Publisher (Windows 95 version 3.0; 206/882-8080; $80) and Serif's PagePlus (3.0; Serif Software, 603/889-8650; $99.95).

Adobe FrameMaker

FrameMaker for the Macintosh looks like FrameMaker for Windows (5.0; Adobe Systems, 408/975-6000; $895), which looks like FrameMaker for a variety of Unix systems. This is a great program, but except for its greater speed on Windows, it offers Bookmakers no compelling reason to choose one platform over the other.

Corel Ventura Publisher

There was once a Mac version of this impressive long-document program, but Xerox abandoned it before selling Ventura to Corel a few years back. Ventura Publisher (5.0; Corel, 613/728-3733; $347) could be a strong argument for Bookmakers to go with Windows--though it doesn't have FrameMaker's feature set, it has great table editing and is blazingly fast. But while Corel is working on a new Windows version, the current version, 5.0, has some big problems. For example, the floating-frame feature drops all referenced frames at the end of a chapter, and publications reflow when you open them on a machine whose font configuration is not identical to that of the machine you created them on.

ReadySetGo

For better or for worse, ReadySetGo GX (7.0; Manhattan Graphics, 914/725-2048; $395) is the also-ran of Mac desktop publishing programs, lacking the widespread support of PageMaker or QuarkXPress. Though ReadySetGo offers some impressive features, it's not a program to base a platform choice on.

More Publishing Tools

Besides the core DTP programs, there are plenty of tools that affect the publisher's work life.

Inexpensive Contenders

The Windows-only Serif PagePlus offers a lot of what PageMaker and XPress offer; combined with a cheap 486 box, this program constitutes an incredible bargain for Laser Level users.

Microsoft Publisher has a huge installed base on Windows, but it has been of interest primarily to the very newest or most amateur of the Laser Level set, with so-called page-layout wizards that help the befuddled middle manager put together a reasonable-looking publication in short order. The new version, 3.0, offers a greater number of more-professional tools, including better color handling, especially for spot colors;

rotation of all elements; and improved typography. But Publisher still won't woo any Design Doctors away from QuarkXPress.

Then there's Adobe Home Publisher (2.02; $49.99, or $109.99 on CD-ROM). We just detest this program--we're sorry to say that since the disappearance of TimeWorks' Publish-It, Adobe Home Publisher has become the only inexpensive alternative on the Macintosh.

Given the price of entry-level Windows boxes, these low-cost Windows contenders argue strongly for that platform as a better choice for Laser Level users.

Image-Editing Programs

There are many image-processing programs out there, but Adobe Photoshop (3.04; $895) is the 800-pound gorilla in the category--the one that Image Makers live and die by. While its feature set is basically identical on the two platforms, its performance of key tasks such as sharpening and color separation on Power Macs simply blows Windows away. If you move lots of images, you probably use Photoshop, and you shouldn't be using it on anything but a Power Mac, especially since you can also use Live Picture (2.1; MetaTools (formerly HSC Software), 805/566-6699; $595), DeBabelizer Toolbox (1.6.5; Equilibrium Software, 415/332-4343; $399), and other image-editing programs that aren't available under Windows.

Illustration Programs

The three big draw applications--Macromedia FreeHand (5.0; Macromedia, 415/252-2000; $595), Adobe Illustrator (Mac 5.5, Windows 4.1; $695), and CorelDraw (Corel, 613/728-8200; price ranges from $69 to $627 depending on version)--constitute a mixed bag. The Macintosh and Windows versions of FreeHand are nearly identical. By contrast, Adobe is up to version 5.5 of Illustrator for the Mac; the current Windows version, 4.1, lacks gradients, layer support, PostScript on the Clipboard, the ability to work in Preview mode, plug-in filters, multiple undos, tool and control palettes, and interactive cursors--to specify just a few minor features. If you're an Illustrator user, you're far better off with a Macintosh.

As for CorelDraw, the first question is, which CorelDraw? People are still using--and Corel is still selling--versions 3, 4, 5, and 6. This Windows-only program is incredibly feature-laden, though not all the features work all the time, and it comes with everything but the kitchen sink: an image editor, an image-cataloging application, thousands of fonts, tens of thousands of pieces of clip art, and so on. The CorelDraw bundle is a strong argument in favor of Windows for Laser Level folks, though Design Doctors and Image Makers may find Corel sluggish and not well designed for production use.

Price/Performance Ratios

All the test results we've seen comparing Mac and Windows performance, including ours, tell the same story: you can get equivalent performance for most desktop publishing tasks for several hundred dollars less on a Windows box.

Plus, a 66MHz 486 running PageMaker or QuarkXPress just plain feels faster than a 68040-based Macintosh. On a 120MHz Pentium, these programs really blaze. There are two main reasons for this difference. First, Windows machines' IDE drive controllers and fast drives, combined with Windows' simplistic file system, make for blazing disk access--seemingly RAM-like speeds in some situations. Second, because accelerated video cards are hundreds of dollars cheaper for Windows machines, most Windows users have access to them; on the Macintosh, these cards remain a tool of specialists.

For Laser Level folks, who tend to buy the inexpensive boxes where the price differential is largest--and who are especially price-sensitive--the difference in cost can be significant. For Bookmakers, Image Makers, and Design Doctors, who buy more-expensive machines, the price spread is less and the timesaving advantages that all Macs offer can easily outweigh the

price differential. Beyond that, Power Macs in particular offer superior performance in several frequently performed and very time-consuming functions that are the bane of the professional desktop publisher--though Windows 95 systems are much faster in certain occasionally performed tasks.

For example, we compared a Power Mac 8100/80 CPU, which is driven by an 80MHz 601 CPU, against a Compaq DeskPro 5100 with a 100MHz Pentium. To test screen-redraw performance, we zoomed a color- and graphics-laden QuarkXPress 3.31 file to Fit in Window; the Power Mac performed that task 1.8 times as fast as the Pentium box, a decisive advantage for an unavoidable event that occurs constantly while laying out pages. On the same systems, the Power Mac was 1.4 times as fast at sharpening a 5MB Photoshop file and converting it to CMYK, a grueling, repetitive process that every production Design Doctor and Image Maker faces.

Those two tasks rely heavily on raw processing speed, where the PowerPC chip has a significant advantage over the Pentium. Weaknesses in the Mac's System 7.5 compared with Windows 95, however, give the Pentium much better performance on several tests that depend on disk input/output and PostScript drivers. For example, the Compaq was more than 3 times as fast at autoflowing text into PageMaker 6.0, a task usually performed once at the beginning of a project. When saving an image-laden QuarkXPress document to a PostScript file, usually the last step before heading for the service bureau, the Pentium box was a humiliating 14 times as fast as the Power Mac, though it was only 1.2 times as fast at performing the same task on a text-only PageMaker file.

In other words, for those who rely on floating-point performance--not only for color separations, but also for color management, 3-D rendering, and so on--Power Macs smoke the competition.

The Last Word

There are three essential questions to ask when comparing Macs with Windows machines for desktop publishing.

* Does the platform offer the facilities I need to do my job efficiently? Windows' lack of two-way printer communication, inability to drive multiple monitors, clunky support for Type 1 fonts, lack of ligatures, less-capable color management, and limited service-bureau support all combine to say no for advanced desktop publishers. The Macintosh is far from perfect and its automation tools are slow, but all of those other pieces are in place.

* Does the platform have the depth of programs and utilities that I need? Again, despite the numerical advantage on the Windows side, the tools for advanced desktop publishers are not as good (with a couple of exceptions). However, for good, inexpensive DTP programs, the Macintosh really has nothing to offer.

* Can the platform provide the performance I need at a price I'm willing to pay? Except in image processing and 3-D work, where the Power Macs reign supreme, you can get more for your money from a Windows machine, especially for the less powerful systems.

So, should you, a Macintosh user, switch? Unless a particular Windows program or feature heavily overrides all the other advantages, no. But when you get into faster machines, the difference in price begins to narrow.

Will you have to switch? No, not this year, and probably not in 1997. But beyond that, our crystal ball is looking pretty cloudy.

Windows Machines Still Cheaper

To evaluate the price/performance ratio of Windows and Macintosh machines, we priced systems equivalent to those we used for performance testing (see the "Price/Performance Ratios" section in the main text). The 8100/80 we used for testing is no longer available, so we priced an 8100/100, which would perform our benchmark tasks considerably faster. Note that we tested on, and priced, a top-dollar Compaq system--with the Mac-clone market still nascent, we hesitated to compare the Mac's pricing

with a low-cost Windows clone, but after due reflection, we decided to shop for a less expensive Pentium system with similar performance; for comparison's sake, we also priced a less expensive Mac.

High-End Systems
The Windows Machine
* Compaq DeskPro 5100 mini-tower
* Pentium 100
* 24MB of RAM
* 1GB hard drive
* Matrox Ultima Impression 24-bit accelerated video card
* 15-inch Compaq monitor
* Ethernet
Price: $3302 (direct from Compaq)
Add-ons to make DeskPro 5100 equivalent to Macintosh
* SCSI board $200 (street price)
* SoundBlaster board $169 (from MicroWarehouse)
Total: $3671
The Apple Machine
* Mac 8100/100 (100MHz PowerPC 601)
* 24MB of RAM
* 700MB hard drive
Price: $3337 (from MacZone)
* 15-inch Apple monitor $479 (from MacZone)
Total: $3816
Low-End Systems
The Other Windows Machine
* Gateway 100MHz Pentium
* 16MB of RAM
* 64-bit 2MB DRAM accelerated graphics
* 17-inch monitor
* 1GB hard drive
* 4X CD-ROM drive
Price: $2699 (direct from Gateway; includes Windows 95, Microsoft Office)
With sound and fax: $2899
The Other Apple Machine
* Performa 6220 (75MHz PowerPC 603)
* 16MB of RAM
* 1GB hard drive
* on-board video
* 4X CD-ROM drive
* fax modem
Price: $2499 (from MacZone; includes ClarisWorks, Quicken, American Heritage Dictionary, Grolier Multimedia Encyclopedia, RAM Doubler, Avid's VideoShop)
* NEC MultiSynch XV17 monitor: $800 (from MacZone)
Total: $3299



**Special Features:** illustration; table; other
**Company Names:** Apple Computer Inc.--Products; Microsoft Corp.--Products
**Descriptors:** Software Multiproduct Review; Operating System
**SIC Codes:** 7372 Prepackaged software
**Ticker Symbols:** AAPL; MSFT
**Trade Names:** Microsoft Windows 95 (Operating system)--Evaluation; System 8 (Operating system)--

Evaluation
**File Segment:** CD File 275



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